Notice of Allowability	Application No.	Applicant(s)	
	09/834,836	OJHA ET AL.	
	Examiner	Art Unit	
	Jonathan G. Sterrett	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Examiner's Amendment of 17 Sept 2005*.

2. ☒ The allowed claim(s) is/are *1,2,4-9,11-16 and 18-23*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brian E Harris Reg. 48,383 on 14 September 2005.

2. Examiner amends **Claims 1, 4, 8, 11, 13, 15 and 22** and cancels **Claims 3, 10 and 17.** Currently **Claims 1, 2, 4-9, 11-16 and 18-23** are pending in the application.

See attached Examiner's Amendment.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

None of the prior art of record, taken individually or in any combination, teach, inter alia, providing via a message bus that provides for communication between the first primary HA system and a second primary HA system, change information to a database of a database system external to the first and second primary HA systems, the change information reflecting the modifications to the planning information taken in combination with a method, system and software for synchronizing planning information in a high availability planning and scheduling architecture as recited in independent **Claims 1**, **15** and **22**.

None of the prior art of record, taken individually or in any combination, teach, inter alia, modify the planning information in response to the processing; and generate a response for communication to the external system; and the second primary HA system is further operable to communicate planning information to the secondary HA system after replacing the first primary HA system and taken in combination with a system and method for synchronizing planning information in a high availability planning and scheduling architecture as recited in independent **Claims 8** and **23**.

The prior art reference most closely resembling the applicants claimed invention is MAPICS

While MAPICS discloses APS functionality it lacks providing via a message bus that provides for communication between the first primary HA system and a second primary HA system, change information to a database of a database system external to the first and second primary HA systems, the change information reflecting the modifications to the planning information, as recited in **Claims 1**, **15** and **22**.

While MAPICS discloses APS functionality it lacks modify the planning information in response to the processing; and generate a response for communication to the external system; and the second primary HA system is further operable to communicate planning information to the secondary HA system after replacing the first primary HA system, as recited in **Claims 8** and **23**.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 571-272-6881. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGS 9-15-05

TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

1. **(Currently Amended)** A method for synchronizing planning information in a high availability planning and scheduling architecture, comprising:

processing requests from one or more external systems using an advanced planning and scheduling (APS) engine included in a first primary high availability (HA) system, the processing of requests including modifying planning information stored in memory of the first primary HA system according to the requests;

providing, via a message bus that provides for communication between the first primary HA system and a second primary HA system, change information to a database of a database system external to the first and second primary HA systems, the change information reflecting the modifications to the planning information;

storing the change information reflecting the modifications to the planning information in the database;

extracting the change information from the database at an extraction time;

updating the planning information using the extracted change information;

storing the updated planning information in memory of the second primary HA system;

identifying requests that were processed by the first primary HA system after the extraction time;

updating the planning information stored in memory of the second primary HA system to account for the requests processed after the extraction time; ~~and~~

replacing the first primary HA system with the second primary HA system such that the first primary HA system ceases processing requests from the external systems and the second primary HA system begins processing requests from the external systems, the second primary HA system processing the requests using an APS engine included in the second primary HA system and the updated planning information stored in memory of the second primary HA system; and

communicating planning information from the second primary HA system to a secondary HA system after replacing the first primary HA system with the second primary HA system, the secondary HA system operable to store the planning information in memory of the secondary HA system and further operable to begin processing requests

using an APS engine included in the secondary HA system and the planning information stored in memory of the secondary HA system.

2. **(Original)** The method of claim 1, wherein:

the planning information comprises available-to-promise (ATP) supply information for one or more products; and

updating the planning information comprises:

determining, based on the extracted change information, the difference between forecasted demand and actual demand for the products; and

in response, updating the ATP supply information.

3. **(Cancelled)**

4. **(Currently Amended)** The method of claim [[3,]] 1, further comprising:

directing requests requiring modification of the planning information to the second primary HA system for processing; and

directing requests not requiring modification of the planning information to the secondary HA system for processing.

5. **(Original)** The method of claim 4, wherein:

the requests requiring modification of the planning information comprise product orders; and

the requests not requiring modification of the planning information comprise product inquiries.

6. **(Original)** The method of claim 1, wherein processing requests from one or more external systems further comprises:

generating a response to an external system in response to modifying the planning information according a request;

communicating the response to the external system;

generating a replication message reflecting modifications made to the planning information by either the first primary HA system or the second primary HA system; and

communicating the replication message to a secondary HA system that is also operable to process requests from the external system, the secondary HA system further operable to modify planning information stored in memory of the secondary HA system according to the replication message.

7. **(Original)** The method of claim 1, wherein:

the external systems comprise external ordering systems associated with customers;

the requests comprise product orders from customers;

the planning information comprises available-to-promise (ATP) supply information associated with one or more products; and

the APS engine comprises a demand fulfillment engine operable to promise ATP supply to a customer in response to the product orders.

8. **(Currently Amended)** A system for synchronizing planning information in a high availability planning and scheduling architecture, comprising:

a first primary high availability (HA) system, comprising:

an HA server operable to receive and queue requests from one or more external systems;

an advanced planning and scheduling (APS) engine operable to:

receive a request from the HA server;

process the request using planning information stored in memory of the first primary HA system;

modify the planning information in response to the processing;

generate a response for communication to the external system from which the request originated; and

communicate change information reflecting the modifications to the planning information;

a database system comprising a database operable to receive and store the change information;

a planning engine operable to:

extract the change information from the database at an extraction time;

update the planning information using the extracted change information; and

communicate the updated planning information; and

a second primary HA system operable to:

receive and store the updated planning information in memory of the second primary HA system;

identify requests that were processed by the first primary HA system after the extraction time;

update the planning information stored in memory of the second primary HA system to account for the requests processed after the extraction time;

instruct the first primary HA system to cease processing requests from the external systems;

begin processing of requests from the external systems using an APS engine included in the second primary HA system and the updated planning information stored in memory of the second primary HA system; ~~and~~

a message bus operable for providing for communication between the first and second primary HA systems and the database system,

wherein the database system is external to the first and second primary HA systems, and wherein the message bus provides for communication of the change information to the database of the database system; and

a secondary HA system comprising:

an HA server operable to receive and queue requests from one or more external systems;

an APS engine operable to:

receive a request from the HA server;

process the request using planning information stored in memory of the secondary HA system;

modify the planning information in response to the processing; and

generate a response for communication to the external system; and

the second primary HA system is further operable to communicate planning information to the secondary HA system after replacing the first primary HA system. –

9. **(Original)** The system of claim 8, wherein:

the planning information comprises available-to-promise (ATP) supply information for one or more products; and

updating the planning information comprises:

determining, based on the extracted change information, the difference between forecasted demand and actual demand for the products; and

in response, updating the ATP supply information.

10. **(Cancelled)**

11. **(Currently Amended)** The system of claim [[10,]] 8, further comprising a messaging controller operable to:

direct requests requiring modification of the planning information to the second primary HA system for processing; and

direct requests not requiring modification of the planning information to the secondary HA system for processing.

12. **(Original)** The system of claim 11, wherein:

the requests requiring modification of the planning information comprise product orders; and

the requests not requiring modification of the planning information comprise product inquiries.

13. **(Currently Amended)** The system of claim [[10,]] 8, wherein the APS engine of the second primary HA system is further operable to:

generate a replication message reflecting modifications made to the planning information by the second primary HA system in response to processing requests from the external system; and

communicate the replication message to the secondary HA system, the secondary HA system further operable to modify planning information stored in memory of the secondary HA system according to the replication message.

14. **(Original)** The system of claim 8, wherein:

the external systems comprise external ordering systems associated with customers;

the requests comprise product orders from customers;

the planning information comprises available-to-promise (ATP) supply information associated with one or more products; and

the APS engine comprises a demand fulfillment engine operable to promise ATP supply to a customer in response to the product orders.

15. **(Currently Amended)** Software for synchronizing planning information in a high availability planning and scheduling architecture, the software embodied in a computer-readable medium and operable to:

process requests from one or more external systems using an advanced planning and scheduling (APS) engine included in a first primary high availability (HA) system, the processing of requests including modifying planning information stored in memory of the first primary HA system according to the requests;

provide, via a message bus that provides for communication between the first primary HA system and a second primary HA system, change information to a database of a database system external to the first and second primary HA systems, the change information reflecting the modifications to the planning information;

store the change information reflecting the modifications to the planning information in the database;

extract the change information from the database at an extraction time;

update the planning information using the extracted change information;

store the updated planning information in memory of the second primary HA system;

identify requests that were processed by the first primary HA system after the extraction time;

update the planning information stored in memory of the second primary HA system to account for the requests processed after the extraction time; ~~and~~

replace the first primary HA system with the second primary HA system such that

the first primary HA system ceases processing requests from the external systems and the second primary HA system begins processing requests from the external systems, the second primary HA system processing the requests using an APS engine included in the second primary HA system and the updated planning information stored in memory of the second primary HA system; and

communicate planning information from the second primary HA system to a secondary HA system after replacing the first primary HA system with the second primary HA system, the secondary HA system operable to store the planning information in memory of the secondary HA system and further operable to begin processing requests using an APS engine included in the secondary HA system and the planning information stored in memory of the secondary HA system.

16. **(Original)** The software of claim 15, wherein:

the planning information comprises available-to-promise (ATP) supply information for one or more products; and

updating the planning information comprises:

determining, based on the extracted change information, the difference between forecasted demand and actual demand for the products; and

in response, updating the ATP supply information.

17. **(Cancelled)**

18. **(Original)** The software of claim [[17,]] 15, further operable to:

direct requests requiring modification of the planning information to the second primary HA system for processing; and

direct requests not requiring modification of the planning information to the secondary HA system for processing.

19. **(Original)** The software of claim 18, wherein:

the requests requiring modification of the planning information comprise product orders; and

the requests not requiring modification of the planning information comprise product inquiries.

20. **(Original)** The software of claim 15, wherein processing requests from one or more external systems further comprises:

generating a response to an external system in response to modifying the planning information according a request;

communicating the response to the external system;

generating a replication message reflecting modifications made to the planning information by either the first primary HA system or the second primary HA system; and

communicating the replication message to a secondary HA system that is also operable to process requests from the external system, the secondary HA system further operable to modify planning information stored in memory of the secondary HA system according to the replication message.

21. **(Original)** The software of claim 15, wherein:

the external systems comprise external ordering systems associated with customers;

the requests comprise product orders from customers;

the planning information comprises available-to-promise (ATP) supply information associated with one or more products; and

the APS engine comprises a demand fulfillment engine operable to promise ATP supply to a customer in response to the product orders.

22. **(Currently Amended)** A system for synchronizing planning information in a high availability planning and scheduling architecture, comprising:

means for processing requests from one or more external systems using an advanced planning and scheduling (APS) engine included in a first primary high availability (HA) system, the processing of requests including modifying planning information stored in memory of the first primary HA system according to the requests;

means for providing, via a message bus that provides for communication between the first primary HA system and a second primary HA system, change information to a

database of a database system external to the first and second primary HA systems, the change information reflecting the modifications to the planning information;

means for storing the change information reflecting the modifications to the planning information in the database;

means for extracting the change information from the database at an extraction time;

means for updating the planning information using the extracted change information;

means for storing the updated planning information in memory of the second primary HA system;

means for identifying requests that were processed by the first primary HA system after the extraction time;

means for updating the planning information stored in memory of the second primary HA system to account for the requests processed after the extraction time; ~~and~~

means for replacing the first primary HA system with the second primary HA system such that the first primary HA system ceases processing requests from the external systems and the second primary HA system begins processing requests from the external systems, the second primary HA system processing the requests using an APS engine included in the second primary HA system and the updated planning information stored in memory of the second primary HA system; and

means for communicating planning information from the second primary HA system to a secondary HA system after replacing the first primary HA system with the second primary HA system, the secondary HA system operable to store the planning information in memory of the secondary HA system and further operable to begin processing requests using an APS engine included in the secondary HA system and the planning information stored in memory of the secondary HA system.

23. **(Previously Presented)** A method for synchronizing planning information in a high availability planning and scheduling architecture, comprising:

processing requests from one or more external ordering systems using a demand fulfillment engine included in a first primary high availability (HA) system, the processing of

requests including modifying (ATP) supply information stored in memory of the first primary HA system according to the requests;

providing, via a message bus that provides for communication between the first primary HA system and a second primary HA system, change information to a database of a database system external to the first and second primary HA systems, the change information reflecting the modifications to the planning information;

storing the change information reflecting the modifications to the ATP supply information in the database;

extracting the change information from the database at an extraction time;

updating the ATP supply information using the extracted change information;

storing the updated ATP supply information in memory of the second primary HA system;

identifying requests that were processed by the first primary HA system after the extraction time;

updating the ATP supply information stored in memory of the second primary HA system to account for the requests processed after the extraction time;

replacing the first primary HA system with the second primary HA system such that the first primary HA system ceases processing requests from the external ordering systems and the second primary HA system begins processing requests from the external ordering systems, the second primary HA system processing the requests using a demand fulfillment engine included in the second primary HA system and the updated ATP supply information stored in memory of the second primary HA system; and

communicating ATP supply information from the second primary HA system to a secondary HA system after replacing the first primary HA system with the second primary HA system, the secondary HA system operable to store the ATP supply information in memory of the secondary HA system and further operable to begin processing requests using a demand fulfillment engine included in the secondary HA system and the ATP supply information stored in memory of the secondary HA system.